2879 Board #162 June 1 2:00 PM - 3:30 PM

The Importance of Adiposity to the Cancer Patient Initiating Exercise

Alexia Amo[1], Cynthia Villalobos[1], Justin C. Brown[2], Paul D. Vosti[3], Courtney D. Jensen[1]. *[1]University of the Pacific, Stockton, CA. [2]Harvard University, Cambridge, MA. [3]St. Joseph's Hospital, Stockton, CA.* (Sponsor: Kathryn H. Schmitz, FACSM)

(No relevant relationships reported)

Each year, more than 600,000 adults are diagnosed with an obesity-associated cancer. Maintenance of a healthy body weight may reduce the likelihood of developing these cancers, slow the deterioration of health, and lower the risk of recurrence. Exercise is a commonly prescribed method of weight management in cancer survivors, but data are limited regarding the individualized benefits experienced by obese versus non-obese patients.

PURPOSE: To compare the effects of exercise on obese and non-obese cancer survivors.

METHODS: We enrolled 157 patients in a 10-week exercise program. At baseline, we determined anthropometric and cardiovascular profiles, psychological wellbeing, and physical functioning. Follow-up data were collected on subjects who completed the program (n=58). Obesity was defined by a body mass index ≥ 30 kg/m^2. Cardiovascular variables were blood pressure and heart rate. Wellbeing was assessed with questionnaires evaluating fatigue, insomnia, and depression. Physical function was measured with 13 tests of strength, coordination, aerobic capacity, and flexibility. Independent-samples t tests compared baseline characteristics and changes in outcome measurements of obese and non-obese patients.

RESULTS: At baseline, obese (40%) and non-obese (60%) patients were similar with the exception that obese patients performed poorer in the six-minute walk (p<0.001) and timed up-and-go (p=0.012) while they were stronger in push (p=0.017) and pull (p=0.040) assessments. Retention rate did not differ by obesity status (p=0.853). From baseline to follow-up, patients improved in wellbeing and most functional tests, but there were no differences in improvement between obese and non-obese patients in any component of their cardiovascular profile, psychological health, or physical functioning (p>0.190).

CONCLUSION: Obese and non-obese cancer survivors have similar profiles at baseline and generally improve with exercise. Exercise may be more critical to obese patients, not due to cardiovascular, psychological, or functional changes, but because of the risk of recurrence associated with excess adiposity. Our findings reiterate the importance of exercise to the cancer survivor, regardless of body composition, but there is potential for bias owing to the high dropout rate found in our study.

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Cancer Stage Does Not Affect Fatigue or VO_{2peak} Improvements Following an Exercise-Based Cancer Rehabilitation Program

Daniel Y.K. Shackelford[1], Jessica M. Brown[1], Brent M. Peterson[2], Reid Hayward[3]. *[1]Carroll University, Waukesha, WI. [2]Biola University, La Mirada, CA. [3]University of Northern Colorado, Greeley, CO.*

(No relevant relationships reported)

INTRO: Cancer stage reflects the severity and extent of the disease, with stage IV reflecting advanced cancer and poorer prognosis. Exercise has been shown to improve a number of psychological and physiological variables in cancer survivors, such as cancer-related fatigue (CRF) and cardiovascular fitness (VO_{2peak}). However, the effect of stage on these improvements is unknown.

PURPOSE: To examine whether diagnosed cancer stage affects or modifies improvements in CRF and VO_{2peak}.

METHODS: A total of 384 cancer survivors (57 ± 12 years of age) completed initial assessments of CRF and VO_{2peak} via the Piper Fatigue Scale and the University of Northern Colorado Cancer Rehabilitation Institute's cancer-specific treadmill protocol, respectively. Participants were divided into four groups based on diagnosed cancer stage (I, II, III, and IV). Survivors completed supervised, one-on-one exercise sessions three days per week, 60 minutes per day for 12 weeks. The intervention consisted of individualized and progressive cardiovascular, whole-body strength, balance, and flexibility training. Participants' CRF and VO_{2peak} were reassessed following the intervention.

RESULTS: Collectively, pre-to-post assessments demonstrated significant overall improvements in CRF (-25%) and VO_{2peak} (11%) across all stages (p<0.01). No significant differences in CRF (p=0.92) or VO_{2peak} (p=0.44) improvements occurred between the stages. When evaluating individual cancer stage CRF, significant improvements (p<0.01) were observed with each stage (I, -32%; II, -27%; III, -29%; IV, -29%). Similarly, significant improvements in VO_{2peak} (p<0.01) occurred with each cancer stage (I, 16%; II, 14%; III, 12%, IV, 11%).

CONCLUSION: Exercise-based cancer rehabilitation during and following cancer treatment has been shown to have positive effects on CRF and VO_{2peak}, but the effect of stage diagnosis on these improvements has been unclear. We observed no significant differences in improvement of CRF and VO_{2peak} between cancer stages, and all stages experienced significant benefits following a 12-week cancer rehabilitation program. These results suggest that reductions in CRF and improved cardiovascular function are possible in all cancer patients, regardless of cancer stage.

F-59 Free Communication/Poster - **Sedentary Behavior**

Friday, June 1, 2018, 1:00 PM - 6:00 PM
Room: CC-Hall B

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Recruitment Strategies for Cluster Randomized Controlled Trials Targeting Workplace Sedentary Behavior- a Retrospective Review

Sarah L. Mullane[1], Sarah A. Rydell[2], Miranda L. Larouche[1], Meynard John L. Toledo[1], Linda H. Feltes[3], Brenna Vuong[4], Noe C. Crespo[5], Mark A. Pereira[2], Matthew P. Buman, FACSM[1]. *[1]Arizona State University, Phoenix, AZ. [2]University of Minnesota, Minneapolis, MN. [3]Minnesota Department of Health, Minneapolis, MN. [4]Fairview Health Services, St Paul, MN. [5]San Diego State University, San Diego, CA.* (Sponsor: Matthew P. Buman, FACSM)

(No relevant relationships reported)

Increased demand for sedentary behavior reduction in workplace environments has led to the planning of large-scale interventions implemented at the group level in the form of cluster randomized controlled trials (RCTs). To date, limited evidence is available regarding cluster RCT recruitment strategies.

PURPOSE: The purpose of this paper is to provide a review of recruitment strategies employed in a large cluster RCT targeting a reduction in workplace sedentary behavior.

METHODS: Recruitment yields ([N enrolled/N screened] x 100) were calculated. Mean (±SD) and median worksite sizes were calculated at each recruitment step. The percentage of participants who progressed to each recruitment step (of the total N screened per worksite) was calculated to determine the mean percentage of a worksite successfully randomized. Recruitment barriers and modifications were recorded by the research team. A survey was completed by a subset of non-participants (N = 57) and thematic analyses conducted to examine reasons for non-participation, positive impacts and negative experiences.

RESULTS: Cluster recruitment yield was 43% (24 worksites enrolled/56 screened). Individual recruitment yield was 49% (641 employees enrolled/1317 screened). On average, 52 ± 16% of the worksite was successfully randomized. Eighteen modifications were developed to overcome participant-related, context-related and research-related barriers.

CONCLUSIONS: Researchers should plan to screen at least 200% of the intended number of worksites and they should target worksites that are approximately double the size of the intended cluster size to avoid loss of statistical power or timeline extensions. Acknowledging temporal fluctuations in worksite-specific workloads, providing options throughout the recruitment process, and adopting a participant-centered approach may facilitate cluster RCT success.